

Date: Mon, 21 Jun 93 08:30:22 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #756
To: Info-Hams

Info-Hams Digest Mon, 21 Jun 93 Volume 93 : Issue 756

Today's Topics:

 #24 tinned wire - Radio Shack??
 6M multi-hop Es to the US
Amiga Morse Software (was: Re: Mac Morse Software)
 APT-Sats: Report JUNE 20, 1993
 Callbook Server
 Making home HAM Friendly (2 msgs)
 Need tubes for Nazi field radio
 Opinions sought on Fritzel FD4
 Summary: Making home Ham Friendly
TV vs Cable. Why Pay for a FREE Signal (2 msgs)
 TV vs Cable Why pay for a free signal?
 video card
 W1AW code practice freq
Wanted: Simple,Cheap,2m antenna project

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 21 Jun 1993 13:49:03 GMT
From: usc!howland.reston.ans.net!torn!nott!cunews!freenet.carleton.ca!
Freenet.carleton.ca!ae517@network.UCSD.EDU
Subject: #24 tinned wire - Radio Shack??
To: info-hams@ucsd.edu

Could someone tell me if Radio Shack stores in the U.S.
continue to carry #24 tinned wire? I'm building a 70 cm
pre-amp and just ran out of this wire and Canadian RS stores

no longer stock this item.
tnx for any help de ve3uav
--

Date: Mon, 21 Jun 1993 10:28:07 GMT
From: mcsun!sunic!ugle.unit.no!trane.uninett.no!news.eunet.no!nuug!statoil!ddm3!
magne@uunet.uu.net
Subject: 6M multi-hop Es to the US
To: info-hams@ucsd.edu

To broaden things a little. Here is a follow-up from the
European side:

Randall Rhea (randall@informix.com) wrote:

: THE SIX METER AMATEUR RADIO BAND
: FREQUENTLY ASKED QUESTIONS

: WHAT ARE THE FREQUENCIES? In the U.S. and some other countries,
: the six-meter amateur radio band lies between 50 and 54 MHz, just
: below TV channel 2 in the U.S. In some other countries,
: 6m is allocated much less bandwidth. The U.K. has only
: 50.0 to 50.1, and New Zealand's band starts at 51.0. Check
: your allocations for your particular country.

In Europe, ch. 2 is 48 to 54 MHz, so the 6m band falls into the TV
band. There have been made decisions on an European level to
abandon ch.2, but because of the high number of low-power repeaters
that use ch.2 as input it takes a while.

U.K has more bandwidth than suggested here. They have at least
50.000-50.500. Most european countries have 50.000-52.000.

: WHAT ARE THE MOST POPULAR FREQUENCIES? Per the FCC, 50.0 to
: 50.1 is reserved for CW work in the U.S. Most operation is
: SSB. 50.100 is the most popular SSB DX frequency, and 50.100
: to 50.124 should be used only for DX. 50.125 is the U.S. domestic
: calling frequency, and most domestic SSB is found between 50.125
: and 50.200. Only during hot F2 openings do you find SSB above 50.200.

Do not forget 50.110

: CAN I RUN RADIO-CONTROLLED EQUIPMENT USING 6M? This
: is legal in the U.S. for licensed hams.

Legal in Norway too...

: WHAT RIGS ARE USED? Probably 50% of the active stations have 80
: to 150 W output, either from old Icom 551D s (the 551 is 10W), or
: from solid-state (brick) amplifiers following the many types of 10W
: rigs. The Icom 575H is very popular. Perhaps 40% of the stations run
: just 10 to 20 W, but most of them either get an amplifier or drop
: out after a year or so. The remaining 10% have tube rigs
: such as the Drake TR-6. Swan and Heathkit tube rigs should
: generally be avoided, as they are too drifty. The kilowatt is
: quite rare on six. The norm for "serious" stations is the 150W
: amplifier.

Several European countries have power limitations due to the number
of ch.2 transmitters. Other limitations include maximum height
of tower, max. gain of antenna and max. total ERP. Norway has
an ERP limit of only 60W.

: CAN I USE A TRANSVERTER WITH AN HF RIG TO GET ON 6M? Yes, but
: you will either spend a lot of time tinkering with a
: soldering iron, or you will spend a lot of money on the
: high-end transverters from SSB Electronics. An SSB Electronics
: 6m transverter fully equipped will run you \$800, but may
: outperform most of the VHF all-mode rigs. Some hams build
: transverters, but you need a good level of electronics expertise.

It's far easier to build a 6m xverter than it's 2m counterpart.
If you have the crystal, a couple of SBL-1's and a few other
parts, it can be built in less than a night :-) Total cost
approx: NOK 200 (\$60). The one thing to think about is if
you choose 28 Meg as the IF, the 56 Meg is pretty close
(and the 44 Meg) (twice the IF and twice the L0)

: working the fleeting openings for many years. The March, 1993
: "QST" magazine has an excellent article on 6m propagation
: that shows a correlation between solar flux and openings.

A closer correlation can be found between openings and
the sun-spot number, I think. The Flux will give a nice
indication though.. (and it's easier to get the flux than
the SSN)

: HOW IS METEOR PROPAGATION? Any area workable by meteors
: can be worked more easily by Es or aurora. Even though meteor bursts
: are much strong and longer on six than on two, little use has been

```
: made of them.  There has been a VERY little meteor-burst
: packet work on six.  W3OTC had the first such contact (with
: W0RPK). W3XO worked him a few years later.
```

In Europe, there are lots of activity on MS. Since the bursts are rather long, SSB are more used than on 2m. High-speed CW (1000-1500 lpm) is also very popular. Es is mainly a late spring and mid-winter activity, so MS is used the rest of the year. Even with a low power station 50-60W ERP, 1800-2000 km is no problem.

```
: Randall Rhea                                Informix Software, Inc.  
: Project Manager, MIS Sales/Marketing Systems  uunet!pyramid!infmtx!randall
```

73 de Magne, LA1BFA

magne@pvv.unit.no || magne@statoil.no

Date: Mon, 21 Jun 1993 13:13:04 GMT
From: usc!howland.reston.ans.net!xlink.net!math.fu-berlin.de!uni-paderborn.de!
urmel.informatik.rwth-aachen.de!rubb.rz.ruhr-uni-bochum.de!news.uni-bielefeld.de!
techfak.uni-bielefeld.de!bsieker@network.
Subject: Amiga Morse Software (was: Re: Mac Morse Software)
To: info-hams@ucsd.edu

I am just lookin for the same thing, but I would like it for the Amiga Computers. I've had some CW training programs that worked to some extend, but they were all written in this poor AmigaBasic, so none of them works any longer since I got a higher processor and OS revision.

So I would appreciate, if anyone could point me to such a program, preferably freely distributable. It would be nice, if the program can also test your abilities to send morse sigs yourself, instead of only training the listening abilities. (With the Joystick firebutton, which could easily be replaced by a Junkers key.

Bernd
~~~~~

```
--      Real Life      Bernd Sieker, Universitaet Bielefeld
      only      //      IRC      Pink
Amiga__//      HAM Radio      DG 6 YHI
      \X/      email      bsieker@techfak.uni-bielefeld.de
```

-----

Date: Mon, 21 Jun 1993 12:52:13 GMT  
From: usc!howland.reston.ans.net!xlink.net!gmd.de!  
peter.henne@gmd.de@network.UCSD.EDU  
Subject: APT-Sats: Report JUNE 20, 1993  
To: info-hams@ucsd.edu

Observed at station 50.7 NLat, 7.1 ELon, JUNE 20, 1993

NOAA-9: APT 137.62 On  
NOAA-10: APT 137.50 On  
NOAA-11: APT 137.62 On  
NOAA-12: APT 137.50 On  
Meteor 3-3: APT 137.85 On  
Meteor 3-4: APT 137.30 \*OFF\* (see below)

Meteor 3-4 was active JUNE 19, I could copy a good  
vis-image from ascending Orbit at 09.50 UT. No APT  
could be received JUNE 20 during all possible passes  
136.00-137.99 MHz.

-----  
Date: Mon, 21 Jun 1993 13:17:01 GMT  
From: sdd.hp.com!math.ohio-state.edu!darwin.sura.net!rsg1.er.usgs.gov!  
resdgs1.er.usgs.gov!tbodoh@network.UCSD.EDU  
Subject: Callbook Server  
To: info-hams@ucsd.edu

In article <C8xM0q.Jz6@acsu.buffalo.edu>, bowen@cs.Buffalo.EDU (Devon E Bowen)  
writes:

|>  
|> In article <C8vx97.7MD@dxis.monroe.pa.us>, k2ph@dxis.monroe.pa.us (Bob  
Schreibmaier) writes:  
|> > One question about the format: It appears that station location  
|> > no longer appears in the output, as it did automagically with the  
|> > previous database. Is there some option we can set to make this  
|> > information appear?  
|>  
|> I've been told that the FCC no longer distributes this information with  
|> the data.  
|>  
|> Devon

--  
When I took my tech exam a few weeks ago, the examiners said not to bother  
filling the station location field on the 610 as the FCC no longer uses it...

+++++

+ Tom Bodoh - Sr. systems software engineer    NOX??? (in the mail)  
+  
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198        (605) 594-6830        +  
+ Internet; bodoh@dggs.cr.usgs.gov (152.61.192.66)  
+  
+    "Welcome back my friends to the show that never ends!" EL&P  
+  
+++++  
-----

Date: 21 Jun 1993 12:26:00 GMT  
From: mvb.saic.com!dayton.saic.com!beerb.dayton.SAIC.COM!beerb@network.UCSD.EDU  
Subject: Making home HAM Friendly  
To: info-hams@ucsd.edu

I don't think that putting in ground rods through the poured concrete floor of the ham shack is a good idea, as proposed by several people. The earth will provide a good ground as long as some moisture is available - but given time, the earth under your house will be pretty dry. You certainly want a short run to the ground rod, but put it outside of the house. Preferably, in virgin earth outside of the roof's "drip line", where rain can get to the soil. A heavy braided cable will provide a good signal ground. Bond the signal ground (per the National Electrical Code) to the main electrical ground.

<<BRAD>>

-----  
Date: Mon, 21 Jun 1993 14:04:48 GMT  
From: sdd.hp.com!apollo.hp.com!hpwin052!hpqmoea!dstock@network.UCSD.EDU  
Subject: Making home HAM Friendly  
To: info-hams@ucsd.edu

One idea for a place to put ground rods is under your driveway, just where you wash your car.

I'm in Scotland. Dry ground is most unnatural here.

David

( How do californians clean their cars ?)

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Date: 21 Jun 93 09:29:47 EDT  
From: psinntp!arrl.org@uunet.uu.net  
Subject: Need tubes for Nazi field radio  
To: info-hams@ucsd.edu

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Date: Sun, 20 Jun 93 19:51:39 GMT  
From: mcsun!sun4nl!bsoatr!bsdihi!dihi@uunet.uu.net  
Subject: Opinions sought on Fritzel FD4  
To: info-hams@ucsd.edu

I use a FD 4 in combination with a homebrew 40 mtrs QRP rig  
Works beautifull! Get perfect signal reports from all over Europe.  
The length of the FD4 is about 40 mtrs though, not 20.  
There is a smaller version, with coils, the FD3. I have no experience with  
that one.

Dick Hissink PA3DSP  
Email:dihi@bsdihi.atr.bso.nl

-----  
Date: 21 Jun 93 09:17:33 EDT  
From: psinntp!arrl.org@uunet.uu.net  
Subject: Summary: Making home Ham Friendly  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, greg@core.rose.hp.com (Greg Dolkas) writes:

>Measure the length of the GFI runs, and make sure they aren't resonant on any  
>band you care to operate on. Every time I key up CW on 15 meters, the GFI  
>in the bathroom trips :-(. Works fine on 80/40/10.

>Greg KD6KGW

Greg,

This may be easier said than done. In reality, the electrical wiring in  
the house will be coupled into many nearby conductors -- plumbing,  
other electrical wiring, telephone wiring, house siding, gutters, etc.  
All of these will affect the resonant frequency of the wiring to

some extent or another.

I suggest that you destroy the resonance by installing a common-mode choke at the GFI. These can be made from any ferrite material, using ferrite toroid cores at installation time, or split-bead ferrite cores (about 15 are needed for 15-meter operation) to correct post-installation problems.

All work done on your house electrical system must conform with local code. Most local codes require that work be done by a licensed electrician.

Additional information about electrical interference is found in the ARRL book "Radio Frequency Interference -- How to Find It and Fix It."

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Ed Hare, KA1CV  
American Radio Relay League  
225 Main St.  
Newington, CT 06111  
(203) 666-1541 - voice  
ARRL Laboratory Supervisor  
RFI, xmtr and rcvr testing  
ehare@arrl.org  
"The goal of every engineer is to  
retire without getting blamed for a  
major catastrophe." -- Scott Adams  
and Dilbert  
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-----  
Date: Mon, 21 Jun 1993 12:36:48 GMT  
From: swrindel@gatech!kd4nc!ke4zv!gary@network.UCSD.EDU  
Subject: TV vs Cable. Why Pay for a FREE Signal  
To: info-hams@ucsd.edu

This isn't really amateur radio related, but as a broadcaster I couldn't resist commenting.

In article <9306181822.AA01509@ucsd.edu> WRIGHT%morekypr.BITNET@ukcc.uky.edu writes:  
>From the Lexington Herald-Leader News Paper Lexington, Ky. Friday June 18, 1993  
>  
>Three of Lexington's four broadcast TV stations took advantage of new federal  
>regulations yesterday and asked a local cable company to give them something  
>in exchange for the use of their signals.  
>  
>One of the TV stations is wanting cash: 25 cents for each of this companies  
>72,000 subscribers. Another wants to negotiate but are unwilling to discuss  
>the details. and the 3rd, a FOX affiliate, wants to deal also. If the cable



>company will carry a new cable channel being developed by FOX, it won't ask  
>for compensation.

Note that 25 cents is what WTBS charges cable companies to carry it's  
signal, and always has.

>The cable company responded to the request by saying: "We have no intention of  
>paying them anything." said program director Patrick Mellon from the company's  
>Norfolk, VA., offices. "The essential issue is whether cable subscribers  
>should have to pay for what non-cable subscribers receive for free."

Cable subscribers are *\*already\** paying for what others receive for  
free. It's in the basic cable charge. The only question is whether  
local broadcasters should get a cut just like the non-broadcast and  
"superstation" originators do. Right now the cable companies have a  
free ride on the programming costs absorbed by the broadcaster while  
"pirating" away his broadcast audience and charging *\*them\** for it.

Gary

--

|                             |  |              |  |                          |
|-----------------------------|--|--------------|--|--------------------------|
| Gary Coffman KE4ZV          |  | You make it, |  | gatech!wa4mei!ke4zv!gary |
| Destructive Testing Systems |  | we break it. |  | uunet!rsiatl!ke4zv!gary  |
| 534 Shannon Way             |  | Guaranteed!  |  | emory!kd4nc!ke4zv!gary   |
| Lawrenceville, GA 30244     |  |              |  |                          |

--

|                             |  |              |  |                          |
|-----------------------------|--|--------------|--|--------------------------|
| Gary Coffman KE4ZV          |  | You make it, |  | gatech!wa4mei!ke4zv!gary |
| Destructive Testing Systems |  | we break it. |  | uunet!rsiatl!ke4zv!gary  |
| 534 Shannon Way             |  | Guaranteed!  |  | emory!kd4nc!ke4zv!gary   |
| Lawrenceville, GA 30244     |  |              |  |                          |

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Date: 21 Jun 1993 13:58:00 GMT  
From: swrinde!gatech!howland.reston.ans.net!darwin.sura.net!news.larc.nasa.gov!  
grissom.larc.nasa.gov!kludge@network.UCSD.EDU  
Subject: TV vs Cable. Why Pay for a FREE Signal  
To: info-hams@ucsd.edu

In article <1993Jun21.123648.21165@ke4zv.uucp> gary@ke4zv.UUCP (Gary Coffman)  
writes:

>

>Cable subscribers are *\*already\** paying for what others receive for  
>free. It's in the basic cable charge. The only question is whether  
>local broadcasters should get a cut just like the non-broadcast and  
>"superstation" originators do. Right now the cable companies have a  
>free ride on the programming costs absorbed by the broadcaster while  
>"pirating" away his broadcast audience and charging *\*them\** for it.

Why bother paying for cable TV? Around here, it leaks out of the cable badly enough that you can pick it up on a cable-ready TV set with a good antenna. Not to mention that you can also pick it up on your 2M rig or an aircraft radio.

Personally, I don't particularly care about cable TV, as long as they manage to keep out of the ham bands.

--scott

--

"C'est un Nagra. C'est suisse, et tres, tres precis."

-----

Date: 21 Jun 93 09:45:58 EDT  
From: world!ksr!jfw%ksr.com@uunet.uu.net  
Subject: TV vs Cable Why pay for a free signal?  
To: info-hams@ucsd.edu

WRIGHT%morekypr.BITNET@ukcc.uky.edu writes:

>The cable company responded to the request by saying: "We have no intention of  
>paying them anything." said program director Patrick Mellon from the company's  
>Norfolk, VA., offices. "The essential issue is whether cable subscribers  
>should have to pay for what non-cable subscribers receive for free."

Gee, that's strange. I was under the impression that cable subscribers WERE paying for what non-cable subscribers receive for free. My cable company certainly charges its subscribers for local stations. I thought the essential issue was whether or not cable \*operators\* were going to have to pay to redistribute someone else's material. Of course, the cable operators not only have no intention of paying them anything, since that would eat into profits until they pay the local city officials a sufficient bribe to allow them a significantly larger rate increase than what the broadcast stations want. They also have no intention of letting the public focus on THAT aspect of this whole affair, either.

I think it extremely obvious that this has nothing to do with \*amateur\*  
\*radio\*; please redirect followups somewhere appropriate.

-----

Date: Mon, 21 Jun 1993 03:04:00  
From: anomaly.sbs.com!chowda!fredmail@uunet.uu.net  
Subject: video card  
To: info-hams@ucsd.edu

For a HAM program I need the description of the registers of a  
OAK 067 VGA card. I want put it into a SVGA mode but I need more

info.

Please help !!

Leave any info here on this bbs or by email to :  
Antoonm@pa3bwe.fdc.iaf.nl

best regards, antoon pa3bwe

-----  
Date: 21 Jun 93 09:16:01 EDT  
From: psinntp!arrl.org@uunet.uu.net  
Subject: W1AW code practice freq  
To: info-hams@ucsd.edu

#### W1AW Schedule

| Time (EST) | Mode  | Days               |
|------------|-------|--------------------|
| -----      | ----  | -----              |
| 12 AM      | RTTY  | Daily              |
| 12:45 AM   | VOICE | Daily              |
| 9 AM       | CWs   | Wed, Fri           |
| 9 AM       | CWf   | Tue, Thu           |
| 10 AM      | CWb   | Tue-Fri            |
| 11 AM      | RTTY  | Tue-Fri            |
| 4 PM       | CWf   | Mon, Wed, Fri      |
| 4 PM       | CWs   | Tue, Thu, Sat, Sun |
| 5 PM       | CWb   | Daily              |
| 6 PM       | RTTY  | Daily              |
| 7 PM       | CWs   | Mon, Wed, Fri      |
| 7 PM       | CWf   | Tue, Thu, Sat, Sun |
| 8 PM       | CWb   | Daily              |
| 9 PM       | RTTY  | Daily              |
| 9:45 PM    | VOICE | Daily              |
| 10 PM      | CWf   | Mon, Wed, Fri      |
| 10 PM      | CWs   | Tue, Thu, Sat, Sun |
| 11 PM      | CWb   | Daily              |

#### Frequencies (MHz)

|        | ----- | -----  | -----  | -----   | -----   | -----   | -----   | -----   |
|--------|-------|--------|--------|---------|---------|---------|---------|---------|
| CW:    | 1.818 | 3.5815 | 7.0475 | 14.0475 | 18.0975 | 21.0675 | 28.0675 | 147.555 |
| RTTY:  |       | 3.625  | 7.095  | 14.095  | 18.1025 | 21.095  | 28.095  | 147.555 |
| VOICE: |       | 3.99   | 7.29   | 14.29   | 18.16   | 21.39   | 28.59   | 147.555 |

Notes:

CW frequencies include code practices, Qualifying Runs and CW bulletins.  
CWs = Morse Code practice (slow) = 5 - 7.5 - 10 - 13 - 15 WPM  
CWf = Morse Code practice (fast) = 35 - 30 - 25 - 20 - 15 - 13 - 10 WPM  
CWb = Morse Code Bulletins = 18 WPM  
RTTY= Teleprinter Bulletins = BAUDOT (45.45 baud) and AMTOR-FEC (100 Baud).  
110 Baud ASCII is sent as time allows.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

On Fridays, UTC, a DX bulletin replaces the regular bulletin transmissions.

On Tuesdays and Saturdays at 2330 UTC, Keplerian Elements for active amateur satellites are sent on the regular teleprinter frequencies.

In a communications emergency, monitor W1AW for special bulletins as follows: voice on the hour, teleprinter at hr+15, and CW at hr+30.

W1AW is open to visitors during normal operating hours: from 1:00 P.M. until 1 A.M. on Mondays, 9 A.M. until 1 a.m. Tuesday through Friday, and from 3:30 P.M. to 1 A.M. on Saturdays and Sundays. FCC licensed amateurs may operate the station from 1 - 4 P.M. Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy. Special arrangements must be made for weekend operation; please call or write at least a week in advance.

Headquarters and W1AW are closed on New Year's Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving and the following Friday, and Christmas Day. On the first Thursday of September, Headquarters and W1AW will be closed during the afternoon.

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Ed Hare, KA1CV  
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RFI, xmtr and rcvr testing

ehare@arrl.org

"The goal of every engineer is to  
retire without getting blamed for a  
major catastrophe." -- Scott Adams  
and Dilbert

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Date: 21 Jun 93 14:45:47 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Wanted: Simple,Cheap,2m antenna project  
To: info-hams@ucsd.edu

Hello Swami,

Look in the ARRL Antenna Handbook for an antenna called Quagi. Its a simple cheap 2m beam just what you are looking for!

Have fun and 73

Tom, KV2X

jennings@abb.com

-----  
Date: (null)

From: (null)

Prepared as a membership service by the American Radio Relay League, Inc., Technical Information Service, 225 Main St., Newington, CT 06111 (203) 666-1541. Email: [tis@arrl.org](mailto:tis@arrl.org) (Internet).

file: \public\info\tis\tubes.txt updated: June 17, 1993

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List of Companies That Sell Vacuum Tubes:

Antique Electronic Supply (Antiques, Components, Kits)  
6221 S. Maple Avenue  
Tempe, AZ 85283  
1-602-820-5411

Cetron Communications Division  
715 Hamilton St  
Geneva, IL 60134  
1-708-208-3700

Elmira Electronics  
P.O. Box 4230 Southside Station  
Elmira, NY 14904  
1-607-734-6114

Fair Radio Sales  
Box 1105  
Lima, OH 45802

Fala Electronics  
P.O. Box 1376  
Milwaukee, WI 53201

International Components Corp  
105 Maxess Road  
Melville, NY 11747  
1-800-645-9154

Kirby  
298 West Carmel Drive  
Carmel, IN 46032  
1-317-843-2212

LTA Industries, Inc.  
P.O. 92  
Canfield, Ohio 44406  
1-216-533-0087

Ocean State Electronics (Amateur Components, QST Kits)  
P.O. Box 1458  
Westerly, RI 02891  
1-800-866-6626

Penta Labs/ Jolida Inc.  
1-800-783-2555

RF Gain, Ltd/ Richardson  
116 South Long Beach Rd.  
Rockville Centre, NY 11570  
1-800-348-5580

RF Parts  
1320 Grand Avenue #16  
San Marcos, CA 92069  
1-800-737-2787

R&L Electronics

Miamisburg, Ohio  
1-800-221-7735

Southern Radio Supply  
1909 Tulane Avenue  
New Orleans, LA 70112  
1-504-524-2343

Steinmetz Electronics  
7519 Maplewood Ave  
Hammond, IN 46324  
1-219-931-9316

United Page (Out of Business?)  
481 Getty Ave.  
Patterson, NJ 07503  
1-201-279-7500

Unity Electronics  
Dept. H  
P.O. Box 213  
Elizabeth, NJ 07206

Varian Associates, Inc  
301 Industrial Way  
San Carlos, CA 94070-2682  
1-800-432-4422

VRS(QS) (Antiques, Schematics, Literature)  
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The ARRL members and HQ staff would like to thank the following people  
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73 from ARRL HQ.

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"The goal of every engineer is to  
retire without getting blamed for a  
major catastrophe." -- Scott Adams

RFI, xmtr and rcvr testing        and Dilbert  
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